TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED / ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371

ATTORNEY'S DOCKET NUMBER	US APPLICATION NO. (if known, see 37 CFR 1.5)
P66905US0	09/926037

INTERNATIONAL APPLICATION NO.	INTERNATIONAL FILING DATE	PRIORITY DATE CLAIMED
PCT/FR00/00250	3 February 2000	18 February 1999

TITLE OF INVENTION

WASHING COMPOSITION FOR KERATINOUS MATERIALS BASED ON WATER-SOLUBLE ORGANIC SILICON COMPOUNDS

APPLICANT(S) FOR DO/EO/US

Henri SAMAIN, Isabelle ROLLAT-CORVOL, Patrice LERDA, and Nathalie GARNIER

Applicant herein submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information.

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).
4. ☒ A proper Demand for Internatl. Preliminary Examination was made by the 19th month from earliest claimed priority date.
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2))
   a. ☐ is transmitted herewith (required only if not transmitted by the International Bureau).
   b. ☒ has been transmitted by the International Bureau.
   c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US)
6. ☒ A translation of the International Application into English (35 U.S.C. 371(c)(2)).
7. ☒ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3))
   a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau).
   b. ☐ have been transmitted by the International Bureau.
   c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
   d. ☒ have not been made and will not be made.
8. ☐ A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☐ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☒ A translation of the annexes to the Internatl. Preliminary Examination report under PCT Article 36 (35 U.S.C. 371(c)(5)).

Items 11. to 16. below concern other document(s) or information included:

11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cover sheet compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ A FIRST preliminary amendment.
    ☐ A SECOND or SUBSEQUENT preliminary amendment.
14. ☐ A substitute specification.
15. ☐ A change of power of attorney and/or address letter.
16. ☒ Other items or information:

    International Search Report – EPO
    PCT Request Form
    PCT/IB/301 Form
    PCT/IB/304 Form
    PCT/IB/308 Form
    First Page of Publication
    International Preliminary Examination Report – with Annexes in French

US APPLICATION NO.(If known, see 37 CFR 1 5)	INTERNATIONAL APPLICATION NO.	ATTORNEY'S DOCKET NUMBER
09/926037	PCT/FR00/00250	P66905US0

	CALCULATIONS	PTO USE ONLY
17. ☒ The following fees are submitted:		
Basic National Fee (37 CFR 1.492(a)(1)-(5)):		
Internatl. prelim. examination fee paid to USPTO (37 CFR 1.492 (a) (1)) .. $690.00		
No international preliminary examination fee paid to USPTO (37 CFR 1.492 (a) (2)) but international search fee paid to USPTO (37 CFR 1.445(a)(2)) .. $710.00		
Neither international preliminary examination fee (37 CFR 1.492 (a) (3)) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO) **$1000.00**		
International preliminary examination fee paid to USPTO (37 CFR 1.492 (a) (4)) and all claims satisfied provisions of PCT Article 33(2)-(4) $100.00		
Search Report prepared by the EPO or JPO (37 CFR 1.492 (a) (5)) **$860.00**		
ENTER APPROPRIATE BASIC FEE AMOUNT =	$ 860.00	
Surcharge of $130.00 for furnishing the **oath or declaration** later than ☐ **20** ☒ **30** months from the earliest claimed priority date (37 CFR 1.492(e)).	$ 130.00	

Claims	**Number Filed**	**Number Extra**	Rate		
Total Claims	**19** - 20 =	-0-	x $18.00	$	
Independent Claims	**1** - 3 =	-0-	x $80.00	$	
Multiple Dependent Claim(s) (if applicable)			+ $270.00	$	
TOTAL OF ABOVE CALCULATIONS =				$ 990.00	
Reduction by 1/2 for filing by **small entity**, if applicable. Verified Small Entity statement must also be filed. (Note 37 CFR 1.9, 1.27, 1.28).				$	
SUBTOTAL =				$ 990.00	
Processing fee of $130 for furnishing the **English translation** later than ☐ **20** ☐ **30** months from the earliest claimed priority date (37 CFR 1.492(f))				$	
TOTAL NATIONAL FEE =				$ 990.00	
Fee of $40.00 for recording the enclosed **assignment** (37 CFR 1.21(h)). Assignment must be accompanied by appropriate cover sheet (37 CFR 3.28, 3.31).				$	
TOTAL FEES ENCLOSED =				$ 990.00	
				Amt. to be refunded:	$
				Amt. charged:	$

a. ☒ A check in the amount of $ 990.00 to cover the above fees is enclosed.

b. ☐ Please charge my Deposit Account No. **06-1358** in the amount of $ ____ to cover the above fees. A duplicate copy of this sheet is enclosed.

c. ☒ The Commissioner is hereby authorized to charge my account any additional fees set forth in §1.492 during the pendency of this application, or credit any overpayment to Deposit Account No. **06-1358**. A duplicate copy of this sheet is enclosed.

SEND ALL CORRESPONDENCE TO:

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By _____ Reg #
Harvey B. Jacobson, Jr.
Reg. No. 20,851

JPH&S 3/95

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Henri SEMAIN et al

Serial No.: New

Filing Date: August 20, 2001

For: WASHING COMPOSITION FOR KERATINOUS MATERIALS BASED ON WATER-SOLUBLE ORGANIC SILICON COMPOUNDS

PRELIMINARY AMENDMENT

Assistant Commissioner of Patents
Washington, D.C. 20231

Sir:

Prior to initial examination, please amend the above-identified application as follows:

IN THE CLAIMS

Please cancel claims 1 - 19 without prejudice or disclaimer.

Please add new claims 20 - 38 as found on the attached five pages.

REMARKS

The foregoing Preliminary Amendment is requested in order to delete the multiple dependent claims and avoid paying the multiple dependent claims fee.

Early action on the merits is respectfully requested.

Respectfully submitted,

JACOBSON HOLMAN PLLC

By _____ Reg # 26,421
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Atty. Docket: P66905US0
Date: August 20, 2001
HBJ:jrc

CLAIMS

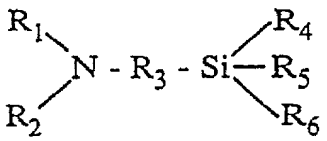
20. Composition for washing keratin materials, characterized in that it comprises, in a cosmetically acceptable aqueous medium, at least 0.02% by weight, relative to the total weight of the composition, of one or more water-soluble organosilicon compounds chosen from silanes comprising one silicon atom and siloxanes comprising two or three silicon atoms, this organosilicon compound also comprising at least one basic chemical function and at least two hydrolyzable or hydroxyl groups per molecule, and at least 4% by weight, relative to the total weight of the composition, of a detergent surfactant chosen from anionic, amphoteric and nonionic surfactants, and mixtures thereof.

21. Composition according to Claim 20, characterized in that the water-soluble organosilicon compound represents from 0.02% to 20% by weight of the composition.

22. Composition according to Claim 20, characterized in that the basic chemical function of the organosilicon compound is chosen from primary, secondary and tertiary amines.

23. Composition according to Claim 20, characterized in that the hydrolyzable groups are chosen from alkoxy, aryloxy and halogen groups.

24. Composition according to Claim 20, characterized in that the organosilicon compound(s) is (are) chosen from the compounds of formulae:



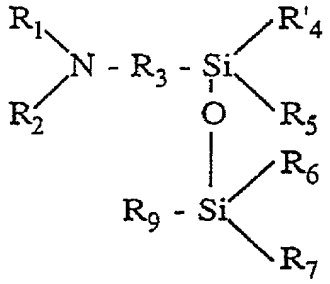
in which:

R_4 represents a halogen or a group OR′ or R'_1;

R_5 represents a halogen or a group OR″ or R'_2;

R_6 represents a halogen or a group OR″′ or R'_3;

and R_1, R_2, R_3, R′, R″, R″′, R'_1, R'_2 and R'_3 represent, independently of each other, a saturated or unsaturated, linear or branched hydrocarbon-based group optionally bearing additional chemical groups, R_1, R_2, R′, R″ and R″′ also possibly denoting hydrogen, at least two of the groups R_4, R_5 and R_6 being other than groups R'_1, R'_2 and R'_3; and



in which:

R_1, R_2, R_3, R_5 and R_6 are defined as above;

R'_4 represents a halogen or a group OR_{11};

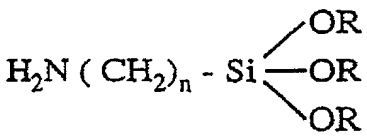
R_7 represents a halogen or a group OR_{10} or R''_1;

R_9 represents a halogen or a group OR_8, R''_2 or $R_3NR_1R_2$;

R''_1, R''_2, R_8, R_{10} and R_{11} represent a saturated or unsaturated, linear or branched hydrocarbon-based group optionally bearing additional chemical groups, the groups R_{11}, R_{10} and R_8 also possibly denoting hydrogen; at least one of the groups R_6, R_7 and R_9 denotes a halogen or a group OR″′, OR_{10} or OR_8.

25. Composition according to Claim 24, characterized in that the groups R_1, R_2, R′, R'_1, R'_2, R'_3, R″, R″′, R''_1, R''_2, R_8, R_{10} and R_{11} are chosen from C_1-C_{12} alkyl, C_6 to C_{14} aryl, (C_1 to C_8) alkyl (C_6 to C_{14}) aryl and (C_6 to C_{14}) aryl (C_1 to C_8) alkyl radicals.

26. Composition according to Claim 20, characterized in that the organosilicon compound has the formula:



in which the radicals R, which may be identical or different, are chosen from C_1-C_6 alkyl radicals and n is an integer from 1 to 6 and preferably from 2 to 4.

27. Composition according to Claim 26, characterized in that the organosilicon compound is γ-aminopropyltriethoxysilane.

28. Composition according to Claim 20, characterized in that the detergent surfactant is present in a proportion of from 5% to 50% by weight and preferably from 8% to 35% by weight relative to the total weight of the composition.

29. Composition according to Claim 20, characterized in that the anionic surfactants are chosen from the alkali metal salts, magnesium salts, ammonium salts, amine salts and amino alcohol salts of the following compounds: alkyl sulfates, alkyl ether sulfates, alkylamidoether sulfates, alkylarylpolyether sulfates, monoglyceride sulfates; alkyl sulfonates, alkylamide sulfonates, alkylaryl sulfonates, olefin sulfonates, paraffin sulfonates; alkyl sulfosuccinates, alkyl ether sulfosuccinates, alkylamide sulfosuccinates; alkyl sulfosuccinamates; alkyl sulfoacetates; alkyl phosphates, alkyl ether phosphates; acyl sarcosinates, acyl isethionates and N-acyl taurates; the alkyl or acyl radical of these various compounds consists of a carbon-based chain containing from 12 to 20 carbon atoms; fatty acid salts of oleic, ricinoleic, palmitic or stearic acid; coconut oil acid or hydrogenated coconut oil acid; acyl

lactylates, in which the acyl radical comprises from 8 to 20 carbon atoms; alkyl-D-galactosiduronic acids and salts thereof, polyoxyalkylenated alkyl or alkylaryl ether carboxylic acids or salts thereof, polyoxyalkylenated alkylamido ether carboxylic acids or salts thereof.

30. Composition according to Claim 20, characterized in that the nonionic surfactants are chosen from polyethoxylated, polypropoxylated or polyglycerolated fatty acids or alkylphenols or alcohols, with a fatty chain containing 8 to 18 carbon atoms, the number of ethylene oxide or propylene oxide groups being between 2 and 50 and the number of glycerol groups being between 2 and 30; copolymers of ethylene oxide and propylene oxide; condensates of ethylene oxide and of propylene oxide with fatty alcohols; polyethoxylated fatty amides; polyglycerolated fatty amides; polyethoxylated fatty amines; oxyethylenated fatty acid esters of sorbitan; fatty acid esters of sucrose or of polyethylene glycol, alkylpolyglycosides; carbamate or amide derivatives of N-alkylglucamide, aldobionamides and amine oxides.

31. Composition according to Claim 20, characterized in that the amphoteric surfactants are chosen from secondary or tertiary aliphatic amine derivatives, in which the aliphatic radical is a linear or branched chain containing 8 to 22 carbon atoms and which contains at least one carboxylate, sulfonate, sulfate, phosphate or phosphonate water-solubilizing anionic group; (C_8-C_{20})alkylbetaines, sulfobetaines,
(C_8-C_{20})alkylamido(C_1-C_6)alkylbetaines or
(C_8-C_{20})alkylamido(C_1-C_6)alkylsulfobetaines.

32. Composition according to Claim 20, characterized in that the aqueous medium consists of water or a mixture of water and a cosmetically acceptable solvent chosen from lower alcohols, alkylene glycols and polyolethers, the water being present in proportions of greater than 20%.

33. Composition according to Claim 20, characterized in that the composition also contains viscosity modifiers chosen from electrolytes, hydrotropes or thickeners present in proportions which may be up to 15% by weight relative to the total weight of the composition.

34. Composition according to Claim 20, characterized in that it also contains one or more adjuvants chosen from cationic surfactants, anionic, nonionic, cationic or amphoteric polymers, optionally quaternized proteins and a silicone oil, wax, gum or resin.

35. Composition according to Claim 20, characterized in that it contains various cosmetically acceptable adjuvants chosen from fragrances, preserving agents, sequestering agents, foam synergists, foam stabilizers and acidifying or basifying agents.

36. Use, as a shampoo, of the composition as defined in Claim 20.

37. Use, as a shower gel, of the composition as defined in Claim 20.

38. Process for washing keratin materials, characterized in that at least one composition as defined in Claim 20 is applied to these materials and, after an exposure time, the treated materials are rinsed with water.

Composition for washing keratin materials, based on water-soluble organosilicon compounds

The present invention relates in general to aqueous compositions for washing keratin materials, and in particular the hair and/or the skin, comprising water-soluble organosilicon compounds, and also to washing processes using these compositions.

It is known that introducing cosmetically active organic compounds such as cationic polymers and silicones into detergent cosmetic compositions such as shampoos gives these compositions disentangling properties and provides washed hair with softness and lightness. However, the "styling" properties characterized by an effect of maintaining volume and hold on the hair are insufficient and do not withstand the hair being washed with a standard shampoo.

It is also known practice to use polymer compositions which have been made partially water-soluble. Thus, certain polymer compounds may be used in water without adding any co-solvent. In this case, the limitation lies in the fact that these polymer compounds are partially, or even totally, removed by rinsing the hair. Consequently, the effect due to the polymer compounds is very limited after rinsing. Ultimately, this limits the effect of rinse-out treatments (shampooing, conditioning), but also reduces the advantage of such compositions used in leave-in mode (lacquers, mousses, hairsetting lotions, etc.) since the user loses the effect acquired by the treatment when he washes his hair.

Efforts have thus been devoted to finding compounds for formulating cosmetic compositions which may be used in water and which show remanence of their effect when the

hair is rinsed.

Thus, US patent No. 4 344 763 (Gillette) describes cosmetic compositions comprising an organosiloxane monomer such as an aminoalkylalkoxysilane and an organic titanate dissolved in an alcohol.

Patent EP-159 628 describes a permanent-waving and strengthening composition for the hair containing an alkyltrialkoxysilane, and patent FR-2 029 696 describes a process for manufacturing a hair-fixing product containing an organic resin comprising acid groups that are totally or partially neutralized with organosilicon compounds containing amino radicals.

The compositions and products described in these documents do not correspond to washing compositions, and in particular compositions for washing the hair such as shampoos.

There is thus a need for a detergent cosmetic composition, in particular for washing the hair, which is essentially aqueous and which produces very pronounced volumizing, hold and texturing effects on the hair which are resistant to washing cycles, while at the same time maintaining care effects on the hair.

One subject of the present invention is thus aqueous detergent cosmetic compositions for washing keratin materials, in particular shampoos, which give the hair a long-lasting styling effect and a pleasant feel, and in particular pronounced volumizing, hold and texturing effects which are resistant to washing cycles.

The Applicant has noted, surprisingly, that it is possible to formulate compositions for washing keratin

materials, in particular shampoos, which have the desired properties, by using in these compositions water-soluble organosilicon compounds comprising 1 to 3 silicon atoms, at least one basic chemical group and at least two hydrolyzable or hydroxyl groups per molecule.

It has been found that applying such compositions produces a pronounced styling effect which withstands rinsing and washing.

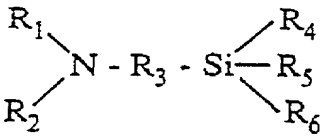
According to the invention, the compositions for washing keratin materials comprise, in a cosmetically acceptable aqueous medium, at least 0.02% by weight, relative to the total weight of the composition, of one or more water-soluble organosilicon compounds chosen from organosilanes comprising one silicon atom and organosiloxanes comprising two or three silicon atoms, the organosilicon compounds also comprising at least one basic chemical function and at least two hydrolyzable or hydroxyl groups per molecule, and at least 4% by weight, relative to the total weight of the composition, of a detergent surfactant chosen from anionic, amphoteric and nonionic surfactants, and mixtures thereof.

The organosilicon compounds that are useful in the compositions of the present invention are chosen from water-soluble organosilanes comprising a silicon atom and water-soluble organosiloxanes comprising two or three silicon atoms, preferably two silicon atoms. They must also comprise at least one basic chemical function, and preferably only one basic chemical function. The basic chemical function may be any function which gives the silicon compound a basic nature without harming its solubility in water and is preferably an amine function such as a primary, secondary or tertiary amine function. The basic chemical function of the silicon compounds

according to the invention may optionally comprise other functions such as, for example, another amine function, an acid function or a halogen function.

The organosilicon compounds that are useful in the compositions of the present invention also comprise at least two hydrolyzable or hydroxyl groups per molecule. The hydrolyzable groups are preferably alkoxy, aryloxy or halogen groups. They may also optionally comprise other chemical functions such as acid or amine functions.

The organosilanes that are preferred according to the invention correspond to the formula:



in which:

R_4 represents a halogen or a group OR′ or R'_1;

R_5 represents a halogen or a group OR″ or R'_2;

R_6 represents a halogen or a group OR‴ or R'_3;

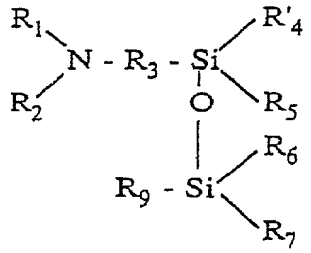
and R_1, R_2, R_3, R′, R″, R‴, R'_1, R'_2 and R'_3 represent, independently of each other, a saturated or unsaturated, linear or branched hydrocarbon-based group optionally bearing additional chemical groups such as acid or amine groups, R_1, R_2, R′, R″ and R‴ also possibly denoting hydrogen, and

at least two of the groups R_4, R_5 and R_6 being other than groups R'_1, R'_2 and R'_3.

Preferably, R_1, R_2, R′, R″ and R‴, R'_1, R'_2 and R'_3 represent a C_1 to C_{12} alkyl group, a C_6 to C_{14} aryl group, a (C_1 to C_8) alkyl (C_6 to C_{14}) aryl group and a (C_6 to C_{14}) aryl (C_1 to C_8) alkyl group; and R_3 is preferably a C_1 to

C_{12} alkyl group, a C_6 to C_{14} aryl group, a (C_1 to C_8) alkyl (C_6 to C_{14}) aryl group and a (C_6 to C_{14}) aryl (C_1 to C_8) alkyl group.

The organosiloxanes that are preferred in the compositions of the present invention may be represented by the formula:



in which:

R_1, R_2, R_3, R_5 and R_6 are defined as above;

R'_4 represents a halogen or a group OR_{11};

R_7 represents a halogen or a group OR_{10} or R''_1;

R_9 represents a halogen or a group OR_8, R''_2 or $R_3NR_1R_2$;

R''_1, R''_2, R_8, R_{10} and R_{11} represent a saturated or unsaturated, linear or branched hydrocarbon-based group optionally bearing additional chemical groups such as basic solubilizing groups;

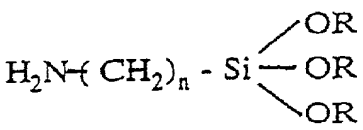
R_{11}, R_{10} and R_8 also possibly denoting hydrogen.

Preferably, R''_1, R''_2, R_8 or R_{10} and R_{11} represent a C_1 to C_{12} alkyl group, a C_6 to C_{14} aryl group, a (C_1 to C_8) alkyl (C_6 to C_{14}) aryl group and a (C_6 to C_{14}) aryl (C_1 to C_8) alkyl group.

At least one of the groups R_6, R_7 and R_9 denotes a halogen or a group OR''', OR_{10} or OR_8.

Preferably, the halogen is chlorine.

One class of organosilicon compounds that is particularly preferred consists of compounds of formula:



in which the radicals R, which may be identical or different, are chosen from C_1-C_6 alkyl radicals such as methyl, ethyl, propyl and butyl and n is an integer from 1 to 6 and preferably from 2 to 4.

One organosilicon compound which is particularly recommended is γ-aminopropyltriethoxysilane.

The content of organosilicon compounds in the compounds of the invention relative to the total weight of the composition is at least 0.02% by weight and preferably at least 0.5% by weight, and up to 20% by weight.

The content of organosilicon compounds according to the invention is determined by the usual analytical methods such as silicon-29 and proton NMR spectroscopy and chromatography.

As mentioned above, the detergent compositions according to the invention contain at least one detergent surfactant chosen from anionic, amphoteric and nonionic surfactants with detergent properties.

Among the anionic surfactants which may be mentioned are the alkali metal salts, ammonium salts, amine salts, amino alcohol salts and magnesium salts of the following compounds: alkyl sulfates, alkyl ether sulfates, alkylamidoether sulfates, alkylarylpolyether sulfates, monoglyceride sulfates; alkyl sulfonates, alkylamide sulfonates, alkylaryl sulfonates, olefin sulfonates, paraffin

sulfonates; alkyl sulfosuccinates, alkyl ether sulfosuccinates, alkylamide sulfosuccinates; alkyl sulfosuccinamates; alkyl sulfoacetates; alkyl phosphates, alkyl ether phosphates; acyl sarcosinates, acyl isethionates and N-acyl taurates.

The alkyl or acyl radical in these various compounds generally consists of a carbon-based chain containing from 12 to 20 carbon atoms.

Among the anionic surfactants which may also be mentioned are fatty acid salts such as oleic, ricinoleic, palmitic and stearic acid salts; coconut oil acid or hydrogenated coconut oil acid; acyl lactylates, in which the acyl radical contains from 8 to 20 carbon atoms.

Surfactants considered as weakly anionic can also be used, such as polyoxyalkylenated carboxylic alkyl or alkylaryl ether acids or salts thereof, polyoxyalkylenated carboxylic alkylamido ether acids or salts thereof, and alkyl-D-galactosiduronic acids or salts thereof.

The nonionic surfactants are chosen more particularly from polyethoxylated, polypropoxylated or polyglycerolated fatty acids or alkylphenols or alcohols, with a fatty chain containing 8 to 18 carbon atoms, the number of ethylene oxide or propylene oxide groups being between 2 and 50 and the number of glycerol groups being between 2 and 30.

Mention may also be made of copolymers of ethylene oxide and propylene oxide; condensates of ethylene oxide and of propylene oxide with fatty alcohols; polyethoxylated fatty amides preferably containing 2 to 30 mol of ethylene oxide; polyglycerolated fatty amides preferably comprising 1 to 5 and in particular 1.5 to 4 glycerol

groups; polyethoxylated fatty amines preferably containing 2 to 30 mol of ethylene oxide; oxyethylenated fatty acid esters of sorbitan with 2 to 30 mol of ethylene oxide; fatty acid esters of sucrose, fatty acid esters of polyethylene glycol, alkylpolyglycosides, carbamate or amide derivatives of N-alkylglucamines, aldobionamides, amine oxides such as alkylamine oxides or of N-acylamidopropylmorpholine.

The preferred amphoteric surfactants are secondary or tertiary aliphatic amine derivatives, in which the aliphatic radical is a linear or branched chain containing 8 to 22 carbon atoms and which contains at least one carboxylate, sulfonate, sulfate, phosphate or phosphonate water-solubilizing anionic group; (C_8-C_{20})-alkylbetaines, sulfobetaines, (C_8-C_{20})alkylamido(C_1-C_6)-alkylbetaines or (C_8-C_{20})alkylamido(C_1-C_6)alkylsulfobetaines.

Among the amine derivatives which may be mentioned are the products sold under the name Miranol, such as those described in patents US-A-2 528 378 and 2 781 354 and classified in the CTFA dictionary, 7th edition, 1997, under the name Disodium Cocoamphodiacetate, Disodium Lauroamphodiacetate, Disodium Capryloamphodiacetate, Disodium Caproamphodiacetate, Disodium Cocoamphodipropionate, Disodium Lauroamphodipropionate, Disodium Caproamphodipropionate, Disodium Capryloamphodipropionate, Lauroamphodipropionate acid, Cocoamphodipropionate acid.

The surfactants are used in the compositions in accordance with the invention in proportions that are sufficient to give the composition a detergent nature, generally in the proportion of at least 4% by weight and preferably between 5% and 50% by weight relative to the

total weight of the composition, and in particular between 8% and 35%.

The compositions according to the invention have a pH generally of between 5 and 12 and more particularly between 6 and 11.

The aqueous medium of the compositions consists either of water or of a mixture of water and solvent(s) chosen from lower alcohols, alkylene glycols and polyolethers; the water is present in proportions of greater than 20% and preferably greater than 45%.

The compositions according to the invention may also contain viscosity modifiers, such as electrolytes, for instance sodium chloride, thickeners, for instance cellulose derivatives such as, for example, carboxymethylcellulose, hydroxypropylcellulose, hydroxyethylcellulose, guar gum, hydroxypropyl guar gums, sclero-glucans or xanthan gum.

These viscosity modifiers are used in proportions ranging up to 15% by weight relative to the total weight of the composition and preferably less than 6%.

The compositions in accordance with the invention can optionally also contain other agents, provided that they do not affect the stability of the compositions, such as cationic surfactants, cationic, anionic, amphoteric or nonionic polymers, or quaternized or non-quarternized proteins, or silicone oils, waxes, gums or resins.

The polymers, the cationic surfactants, the quaternized or non-quaternized proteins and the silicones are used in the cosmetic or dermatological compositions according to the invention in proportions of between 0.05% and 10% and

preferably between 0.1% and 5% relative to the total weight of the composition.

The compositions according to the invention may also contain various adjuvants commonly used in cosmetics, such as fragrances, preserving agents, sequestering agents, foam stabilizers, propellants, colorants, antidandruff agents, ceramides, vitamins or provitamins, hydroxy acids, acidifying or basifying agents or other adjuvants depending on the use envisaged.

The processes for washing and/or conditioning the hair or the skin consist in applying thereto a composition as defined above, this application being followed by rinsing.

The compositions in accordance with the invention may also be used as shower gels for washing the hair and the skin, in which case they are applied to wet skin and wet hair and are rinsed out after application.

The examples which follow are intended to illustrate the invention without, however, being limiting in nature.

EXAMPLES

Example 1:

The washing compositions in Table I below were formulated.

Table I

	A	B (invention)
Sodium (C_{12}-C_{14})alkyl ether sulfate oxyethylenated with [2.2 mol of ethylene oxide, sold containing 70% AM	8 AM	8 AM

Laurylbetaine as an aqueous solution containing 30% AM	2 AM	2 AM
Aminopropyltriethoxysilane (APTES)	-	5
Aqueous 0.1N hydrochloric acid solution at pH = 1	1.5	1.5
Water qs	100	100

Evaluation of the treating properties:

Locks of natural hair were treated with the two compositions, under the following conditions:

1 g of composition per 2.5 g lock
Exposure time = 10 minutes
Rinsing with running water = passed between 2 fingers 20 times
Drying = 10 minutes at 60°C.

The two locks were then submitted to a panel of testers who were asked the question: "which lock is the more coated and the more textured"?

The 10 testers unanimously considered that the locks treated with composition B are more coated and have more texture than the locks treated with composition A.

Example 2:
The compositions in Table II below were formulated.

Table II

	C	D (invention)
Sodium $(C_{12}-C_{14})$alkyl ether sulfate oxyethylenated with [2.2 mol of ethylene oxide, sold containing 70% AM	10 AM	10 AM
Alkylpolyglucoside as an aqueous solution containing 53% AM, sold under the name Plantacare®2000 UP by the company Henkel	5 AM	5 AM
Aminopropyltriethoxysilane (APTES)	-	5
Aqueous 0.1N hydrochloric acid solution at pH = 1	1.5	1.5
Water qs	100	100

Evaluation of the treating properties:

Locks were treated as in Example 1.

The two locks were then submitted to a panel of testers who were asked the question: "which lock is the more coated and the more textured"?

The 10 testers unanimously considered that the locks treated with composition D are more coated and have more texture than the locks treated with composition C.

CLAIMS

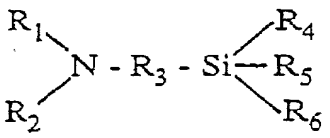
1. Composition for washing keratin materials, characterized in that it comprises, in a cosmetically acceptable aqueous medium, at least 0.02% by weight, relative to the total weight of the composition, of one or more water-soluble organosilicon compounds chosen from silanes comprising one silicon atom and siloxanes comprising two or three silicon atoms, this organosilicon compound also comprising at least one basic chemical function and at least two hydrolyzable or hydroxyl groups per molecule, and at least 4% by weight, relative to the total weight of the composition, of a detergent surfactant chosen from anionic, amphoteric and nonionic surfactants, and mixtures thereof.

2. Composition according to Claim 1, characterized in that the water-soluble organosilicon compound represents from 0.02% to 20% by weight of the composition.

3. Composition according to Claim 1 or 2, characterized in that the basic chemical function of the organosilicon compound is chosen from primary, secondary and tertiary amines.

4. Composition according to any one of Claims 1 to 3, characterized in that the hydrolyzable groups are chosen from alkoxy, aryloxy and halogen groups.

5. Composition according to any one of the preceding claims, characterized in that the organosilicon compound(s) is (are) chosen from the compounds of formulae:



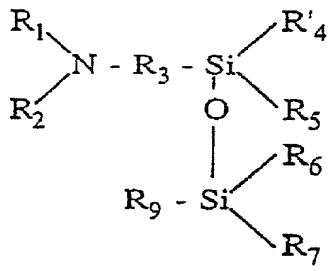
in which:

R_4 represents a halogen or a group OR′ or R'_1;

R_5 represents a halogen or a group OR″ or R'_2;

R_6 represents a halogen or a group OR‴ or R'_3;

and R_1, R_2, R_3, R′, R″, R‴, R'_1, R'_2 and R'_3 represent, independently of each other, a saturated or unsaturated, linear or branched hydrocarbon-based group optionally bearing additional chemical groups, R_1, R_2, R′, R″ and R‴ also possibly denoting hydrogen, at least two of the groups R_4, R_5 and R_6 being other than groups R'_1, R'_2 and R'_3; and



in which:

R_1, R_2, R_3, R_5 and R_6 are defined as above;

R'_4 represents a halogen or a group OR_{11};

R_7 represents a halogen or a group OR_{10} or R''_1;

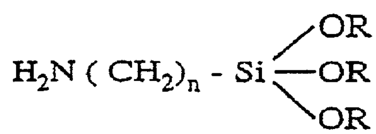
R_9 represents a halogen or a group OR_8, R''_2 or $R_3NR_1R_2$;

R''_1, R''_2, R_8, R_{10} and R_{11} represent a saturated or unsaturated, linear or branched hydrocarbon-based group optionally bearing additional chemical groups, the groups R_{11}, R_{10} and R_8 also possibly denoting hydrogen; at least one of the groups R_6, R_7 and R_9

denotes a halogen or a group OR‴, OR_{10} or OR_8.

6. Composition according to Claim 5, characterized in that the groups R_1, R_2, R′, R'_1, R'_2, R'_3, R″, R‴, R''_1, R''_2, R_8, R_{10} and R_{11} are chosen from C_1-C_{12} alkyl, C_6 to C_{14} aryl, (C_1 to C_8) alkyl (C_6 to C_{14}) aryl and (C_6 to C_{14}) aryl (C_1 to C_8) alkyl radicals.

7. Composition according to any one of Claims 1 to 6, characterized in that the organosilicon compound has the formula:



in which the radicals R, which may be identical or different, are chosen from C_1-C_6 alkyl radicals and n is an integer from 1 to 6 and preferably from 2 to 4.

8. Composition according to Claim 7, characterized in that the organosilicon compound is γ-aminopropyltriethoxysilane.

9. Composition according to any one of the preceding claims, characterized in that the detergent surfactant is present in a proportion of from 5% to 50% by weight and preferably from 8% to 35% by weight relative to the total weight of the composition.

10. Composition according to any one of the preceding claims, characterized in that the anionic surfactants are chosen from the alkali metal salts, magnesium salts, ammonium salts, amine salts and

amino alcohol salts of the following compounds: alkyl sulfates, alkyl ether sulfates, alkylamidoether sulfates, alkylarylpolyether sulfates, monoglyceride sulfates; alkyl sulfonates, alkylamide sulfonates, alkylaryl sulfonates, olefin sulfonates, paraffin sulfonates; alkyl sulfosuccinates, alkyl ether sulfosuccinates, alkylamide sulfosuccinates; alkyl sulfosuccinamates; alkyl sulfoacetates; alkyl phosphates, alkyl ether phosphates; acyl sarcosinates, acyl isethionates and N-acyl taurates; the alkyl or acyl radical of these various compounds consists of a carbon-based chain containing from 12 to 20 carbon atoms; fatty acid salts of oleic, ricinoleic, palmitic or stearic acid; coconut oil acid or hydrogenated coconut oil acid; acyl lactylates, in which the acyl radical comprises from 8 to 20 carbon atoms; alkyl-D-galactosiduronic acids and salts thereof, polyoxyalkylenated alkyl or alkylaryl ether carboxylic acids or salts thereof, polyoxyalkylenated alkylamido ether carboxylic acids or salts thereof.

11. Composition according to any one of Claims 1 to 9, characterized in that the nonionic surfactants are chosen from polyethoxylated, polypropoxylated or polyglycerolated fatty acids or alkylphenols or alcohols, with a fatty chain containing 8 to 18 carbon atoms, the number of ethylene oxide or propylene oxide groups being between 2 and 50 and the number of glycerol groups being between 2 and 30; copolymers of ethylene oxide and propylene oxide; condensates of ethylene oxide and of propylene oxide with fatty alcohols; polyethoxylated fatty amides; polyglycerolated fatty amides; polyethoxylated fatty amines; oxyethylenated fatty acid esters of sorbitan; fatty acid esters of

sucrose or of polyethylene glycol, alkylpolyglycosides; carbamate or amide derivatives of N-alkylglucamide, aldobionamides and amine oxides.

12. Composition according to any one of Claims 1 to 9, characterized in that the amphoteric surfactants are chosen from secondary or tertiary aliphatic amine derivatives, in which the aliphatic radical is a linear or branched chain containing 8 to 18 carbon atoms and which contains at least one carboxylate, sulfonate, sulfate, phosphate or phosphonate water-solubilizing anionic group; (C_8-C_{20})alkylbetaines, sulfobetaines, (C_8-C_{20})alkylbetaines [sic] or (C_8-C_{20})-alkylamido(C_1-C_6)alkylsulfobetaines.

13. Composition according to any one of Claims 1 to 12, characterized in that the aqueous medium consists of water or a mixture of water and a cosmetically acceptable solvent chosen from lower alcohols, alkylene glycols and polyolethers, the water being present in proportions of greater than 20%.

14. Composition according to any one of Claims 1 to 13, characterized in that the composition also contains viscosity modifiers chosen from electrolytes, hydrotropes or thickeners present in proportions which may be up to 15% by weight relative to the total weight of the composition.

15. Composition according to any one of Claims 1 to 14, characterized in that it also contains one or more adjuvants chosen from cationic surfactants, anionic, nonionic, cationic or amphoteric polymers, optionally quaternized proteins and a silicone oil, wax, gum or resin.

16. Composition according to any one of Claims 1 to 15, characterized in that it contains various cosmetically acceptable adjuvants chosen from fragrances, preserving agents, sequestering agents, foam synergists, foam stabilizers and acidifying or basifying agents.

17. Use, as a shampoo, of the composition as defined in any one of Claims 1 to 16.

18. Use, as a shower gel, of the composition as defined in any one of Claims 1 to 16.

19. Process for washing keratin materials, characterized in that at least one composition as defined in any one of Claims 1 to 16 is applied to these materials and, after an exposure time, the treated materials are rinsed with water.

DECLARATION AND POWER OF ATTORNEY U.S.A.

FOR ATTORNEYS' USE ONLY

ATTORNEYS' DOCKET NO.

ALL PATENTS, INCLUDING DESIGN
FOR APPLICATION BASED ON PCT, PARIS CONVENTION;
NON PRIORITY, OR PROVISIONAL APPLICATIONS

As a below named inventor, I declare that my residence, post office address and citizenship are stated below next to my name, the information given herein is true, that I believe that I am the original, first and sole inventor (if only one name is listed at 201 below), or an original, first and joint inventor (if plural inventors are named below at 201-203, or on additional sheets attached hereto) of the subject matter which is claimed and for which patent is sought on the invention entitled:

101 WASHING COMPOSITION FOR KERATINOUS MATERIALS BASED ON WATER-SOLUBLE ORGANIC SILICON COMPOUNDS.

102 which is described and claimed in: ☒ PCT International Application No. PCT/FR00/00250 filed February 3,2000

☐ the attached specification ☐ the specification in application Serial No. _____ filed _____

(if applicable) and amended on _____

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.
I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.
I hereby claim foreign priority benefits under Title 35, United States Code, §119 (a)-(d) of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

103 104

Prior Foreign Application(s) (Number)	(Country)	(Day/Month/Year Filed)	Priority Claimed
99/01981	France	18 February 1999	☒ Yes ☐ No
			☐ Yes ☐ No
			☐ Yes ☐ No

I hereby claim the benefit under Title 35, United States Cod, §119(e) of any United States provisional appplication(s) listed below:
Application No. _____ Filing Date _____ Application No. _____ Filing Date _____

105 I hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, §1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application:

(Application Serial No.) (Filing Date) (Status: patented, pending, abandoned)

POWER OF ATTORNEY: As a named inventor, I hereby appoint the following attorneys (Registration No.) to prosecute this application, receive and act on instructions from my agent, and transact all business in the Patent and Trademark Office connected therewith. HARVEY B. JACOBSON, JR. (20,851); D. DOUGLAS PRICE (24,514); JOHN CLARKE HOLMAN (22,769), MARVIN R. STERN (20,640); MICHAEL R. SLOBASKY (26,421); JONATHAN L. SCHERER (29, 851); IRWIN M. AISENBERG (19,007); WILLIAM E. PLAYER (31,409)

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I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both, under section 1001 of Title 18 of the United States Code; and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

SIGNATURE OF INVENTOR 201*	SIGNATURE OF INVENTOR 202*	SIGNATURE OF INVENTOR 203*
Henri Samain	Isabelle Rollat	Patrice Lerda
DATE: September 7,2001	DATE: September 7,2001	DATE: September 7,2001

☒ Additional inventors are named on separately numbered sheets attached hereto.

Attorney Docket No. _____

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